

Claims

We claim:

- 1 1. A wireless system comprising:
 - 2 a mobile user device that is programmable so that it can be associated
 - 3 with multiple user profiles; and
 - 4 a controller coupled to service sessions between the mobile user device
 - 5 and one or more gateways and servers that handle wireless
 - 6 requests, wherein controller allows the user to change from a first
 - 7 user profile to a second user profile within a session via selections
 - 8 made on the mobile user device without requiring termination of the
 - 9 session, which results in switching the data traffic of the mobile
 - 10 device from one wireless gateway to another wireless gateway.
- 1 2. The system of claim 1 wherein a user profile contains at least a unique
- 2 WAP gateway IP address, NAS (Network Access Server) dialup number,
- 3 and user.
- 1 3. The system of claim 1 wherein the changing of a user profile results in
- 2 changing a gateway with which the mobile user device is communicating
- 3 in order to communicate with multiple gateways in parallel.
- 1 4. A wireless system for processing wireless requests, the system
- 2 comprising:
 - 3 a controller coupled to service sessions between the mobile user device
 - 4 and one or more wireless gateways and servers that handle
 - 5 wireless requests; and
 - 6 a service selection management program coupled to the controller,
 - 7 wherein the controller provides service selection information to the
 - 8 service selection management program and the service selection

9 management program communicates with the mobile user device
10 to allow service selections to be dynamically changed while a
11 wireless session is being conducted, and wherein subscriber
12 identifiers and other parameters are placed into the wireless
13 request to identify the changing service requirements.

1 5. The system of claim 4 wherein the wireless device identifiers set user
2 security levels for wireless data transmissions.

1 6. A wireless system for processing wireless requests, the system
2 comprising:

3 a controller coupled to service sessions between the mobile user device
4 and one or more wireless gateways and servers that handle
5 wireless requests; and

6 a service selection management program coupled to the controller,
7 wherein the controller provides service selection information to the
8 service selection management program to allow the operator to
9 dynamically establish differentiated revenue models with tiered
10 services based on one or more of a geo-position of the mobile user
11 device, data packet quality of service (QoS), transport security
12 settings, network loading or prioritized resource utilization levels.

1 7. A wireless system comprising:

2 a controller coupled to service sessions between the mobile user device
3 and one or more Wireless gateways and servers that handle
4 wireless requests;

5 a plurality of wireless gateways and servers that handle wireless requests
6 that are connected between the controller and the one or more web
7 servers wherein the gateway is chosen dynamically by the mobile
8 user device and end-to-end security of wireless sessions are

9 improved by providing WTLS traffic to the wireless gateway located
10 behind an enterprise firewall.

1 8. A wireless system for processing wireless requests, the system
2 comprising:

3 a controller coupled to service sessions between the mobile user device
4 and one or more servers that handle wireless requests;
5 a service selection management program coupled to the controller; and
6 a plurality of wireless gateways that handle wireless requests and are
7 connected between the controller and the one or more servers
8 wherein the service selection management program monitors
9 information associated with a wireless session to determine
10 selectively which wireless gateway is to process that wireless
11 session.

1 9. The system of claim 8 wherein the service selection management program
2 is capable of intelligent service-dependent routing of WAP traffic based on
3 mobile user device roaming, mobile user device location, user
4 identification, or WAP service selection.

1 10. The system of claim 8 wherein the system inserts a subscriber identifier in
2 all non-WTLS WAP requests.

1 11. The system of claim 8 wherein a plurality of the wireless gateways are
2 enabled in parallel to each other to process a request from mobile user
3 device.

1 12. A wireless system using a routing table, the routing table comprising:
2 a table of table entries stored in memory within the system;
3 each table entry within the table being capable of pointing to one or more
4 routing entries; and

5 one or more routing entries coupled to one or more table entries, wherein
6 each routing entry contains one or more of: a device address and
7 port, a gateway address, a subscriber ID, a quality of service
8 parameter, an assigned proxy port and charging parameters.

1 13.The system of claim 12 wherein each routing entry contains all of: a
2 device address and port, a gateway address, a subscriber ID, a quality of
3 service parameter, an assigned proxy port and charging parameters
4 ordered linked list; hash table.

1 14.The system of claim 12 wherein the table is a hash table and the routing
2 entries are connected as a serial ordered linked lists when more than one
3 routing entry is associated with a single table entry.

1 15.The system of claim 12 wherein a wireless device user can dynamically
2 change one or more of the entries of their routing entry while in session.

1 16.The system of claim 12 wherein the routing table represents a mapping of
2 the subscriber to a current WAP gateway of choice wherein that WAP
3 gateway may be changed by changing information in the routing table.

1 17.The system of claim 12 wherein the routing table represents the service
2 profile or service level associated with a WAP gateway and a subscriber's
3 individual security and priority profile/level wherein this information may be
4 dynamically changed by the subscriber.

1 18.A wireless system having a controller, the controller comprising:
2 an input routine for receiving information from a wireless device;
3 worker threads for processing requests received through the input routine
4 and either obtaining data from external gateways in response to the

5 requests or providing requests to a service management module to
6 process service selection for the wireless device;
7 a routing table for use by the worker threads when processing requests;
8 and
9 drive page threads for providing data back to wireless devices in response
10 to processed requests.

1 19. The system of claim 18 wherein data within memory and associated with
2 each wireless device may be changed so that some of the wireless
3 devices are associated with a variety of payment schemes.

1 20. The system of claim 18 wherein data within the system for each wireless
2 device may be changed so that some of the wireless devices access a
3 first gateway while other wireless devices access a second gateway.

1 21. The system of claim 18 wherein service choices for a wireless device may
2 be made on demand by changing information within the routing table.

1 22. The system of claim 18 wherein each wireless device is assigned a unique
2 identifier in the routing table and dynamic services may be selected and
3 changed using that unique identifier.

1 23. A method to support consistent parameters and service settings while
2 roaming within a wireless system, the method comprising:
3 fixing a static IP address within a mobile device;
4 receiving, in a foreign network, a request from the mobile device where
5 the request is associated with the static IP address;
6 forwarding the request from the foreign network to a wireless gateway
7 within the home network using the static IP address; and
8 processing, within the home network, the request using parameters and
9 service settings stored within the home network.